

ABSTRACT OF THE DISCLOSURE

1 A radio link control (RLC) entity (200) supports plural TCP connections across a
2 radio interface and is employed with or in a radio access network. The radio link
3 control (RLC) entity processes RLC protocol data units (PDUs) obtained from a
4 medium access control (MAC) layer to obtain Internet Protocol (IP) packets for the
5 plural TCP connections. The radio link control (RLC) entity uses availability of
6 Internet Protocol (IP) packets for a given TCP connection to control separately for the
7 given TCP connection in-sequence delivery to an Internet Protocol layer of Internet
8 Protocol (IP) packets without regard to availability of Internet Protocol (IP) packets of
9 another of the plural TCP connections. The radio link control (RLC) entity has both a
10 sending side (which sends RLC PDUs to the lower level medium access control (MAC)
11 layer) and a receiving side (which receives RLC PDUs from the lower level medium
12 access control (MAC) layer). To control in-sequence delivery of the Internet Protocol
13 (IP) packets for the given TCP connection, the radio link control (RLC) entity inserts
14 and uses port-specific sequence numbers in the RLC protocol data units which carry the
15 Internet Protocol (IP) packets for the given TCP connection. The port-specific
16 sequence numbers for the RLC protocol data units are assigned on a sending side of the
17 radio link control (RLC) entity. The port-specific sequence numbers are carried in an
18 extension of a length indicator field of a header of the RLC protocol data units. A
19 predetermined value in a header extension type field of the header of the RLC protocol
20 data units indicates that the port-specific sequence numbers are carried in an extension
21 of a length indicator field of the header of the RLC protocol data units.
22

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22